

On Okinawa, the species has been a very rare migrant. Up to four are seen annually, mostly in October. A few have been seen in other autumn months and also in April. They rarely stay more than a few days. The birds, most often singles, sometimes pairs, usually occur with Rufous-necked Stints. The foraging area at Itoman was a large cement-lined ditch about 800 m long and 10–15 m across. The bird consistently fed where the water was slightly flowing, about 1–1.5 cm deep, with a shallow mud bottom and a dense, unappealing flocculate suspended in the water. Other Spoon-billed Sandpipers have been seen feeding on tidal mudflats and tidal sandflats interspersed with patches of mud and rock.

#### REFERENCES

- Hayman, P., Marchant, J. and Prater, T. (1986) *Shorebirds* Boston: Houghton Mifflin Co.  
Johnsgard, P. A. (1981) *The plovers, sandpipers and snipes of the world*. Lincoln, Nebraska: University of Nebraska Press.  
D. W. McWhirter, 10112 W. Holt Rd., Dimondale, Michigan 48821, U.S.A.

## Recent extensions in breeding range of the Yellow Bittern *Ixobrychus sinensis*

R. V. LANSDOWN

The Yellow Bittern *Ixobrychus sinensis* is found from the Indian subcontinent, far eastern USSR, Japan and China, discontinuously to Papua New Guinea and Micronesia (Hancock and Kushlan 1984). Hitherto the breeding distribution was known to extend throughout most of the South-East Asian region, but not extending into southern peninsular Malaysia (Medway and Wells 1976), north-east or east Burma or south-west Thailand (King *et al.* 1975), Borneo or Wallacea (White and Bruce 1986). The incidence of vagrancy is high (two definite records from Australia) and colonisation has occurred of islands such as the Seychelles, this showing the ability of the species to adapt (Hancock and Kushlan 1984).

Until Cairns (1954) published his finding of a colony on Penang Island, off the north-west coast of the peninsula, the Yellow Bittern had been considered a winter visitor and passage migrant to peninsular Malaysia. However, since the early 1980s, birds have been seen more frequently during the (northern) summer months (D. R. Wells verbally 1987). In July 1986, during work on the breeding cycle of the Cinnamon Bittern *I. cinnamomeus* in ricefields in the Sekinchan area of Selangor State, West Malaysia, I located

a second breeding area for the peninsula, containing up to 100 pairs. Of 42 nests actually checked, three were in rice and the remainder in scrub and reeds lining ditches and bunds (raised banks) between fields (nests in rice were located by walking through the crops flushing sitting adults).

The first nests were found in late April, and contained eggs and small chicks. A visit to the area in June produced four new colonies within a half-mile radius of the first, with between them more than 10 breeding pairs (colonies were regarded as distinct when a distance of over 200 m lay between the nearest nests of respective groupings). In early July an isolated colony of twelve nests was found in a previously unstudied area of the same ricefield system. One nest held an incomplete clutch, one held a complete clutch and five held unfledged young at different stages of development; the remaining five were not approached too closely, owing to the risk of disturbance causing desertion.

In late June 1986, as a result of an increase in the number of records of summering Yellow Bitterns in Singapore, I paid a visit to a potential breeding site there, the Kranji Reservoir, where I saw more than 20 birds, many of which were immatures, and found a nest of the species.

For many years in Borneo there have been suggestions that a breeding population of Yellow Bitterns exists (Smythies 1981); for Sabah such speculation was founded on a sighting of an immature bird near Kota Kinabalu and two records of adults at Kota Belud in July (Smythies 1981). Holmes and Burton (1987) suggest the presence of a resident population in Kalimantan, although there has as yet been no proof of breeding. In September 1986, during fieldwork in the Kota Belud Bird Sanctuary, Sabah, I observed a flightless juvenile Yellow Bittern begging from an adult. The juvenile was subsequently caught and examined, and had not yet grown fully formed flight feathers.

Given this proof of breeding in Borneo, where long suspected, the suggestion by Uttley (1987) that a resident population exists in Sulawesi may yet prove to be correct. However, it remains debatable whether the new records presented here indicate a range expansion by the Yellow Bittern itself or merely confirmation of its long-term presence as a breeding bird in the areas covered.

During the fieldwork relevant to this paper, the author was working for Interwader, which I would like to thank for its support.

#### REFERENCES

- Cairns, J. (1954) The Yellow Bittern *Ixobrychus sinensis sinensis*. *Malay Nature J.* 9: 11–15.  
Hancock, J. and Kushlan, J. (1984) *The herons handbook*. London: Croom Helm.  
Holmes, D. A. and Burton, K. (1987) Recent notes on the avifauna of Kalimantan. *Kukila* 3: 2–32.  
King, B. F., Dickinson, E. C. and Woodcock, M. W. (1975) *A field guide to the birds of South-East Asia*. London: Collins.  
Medway, Lord and Wells, D. R. (1976) *The birds of the Malay Peninsula*, 5. London and Kuala Lumpur: H. F. and G. Witherby in association with Penerbit Universiti Malaya.

- Smythies, B. E. (1981) *The birds of Borneo*. Third edition. Kota Kinabalu and Kuala Lumpur: The Sabah Society and the Malayan Nature Society.
- Uttley, J. (1987) Survey of Sulawesi Selatan to assess the status of wetlands and to identify key sites for breeding and migratory waterbirds. Kuala Lumpur: Interwader/PHPA Report no. 2 (Interwader publ. no. 11).
- White, C. M. N. and Bruce, M. D. (1986) *The birds of Wallacea (Sulawesi, the Moluccas and Lesser Sunda Islands, Indonesia); an annotated check-list*. London: British Ornithologists' Union (Check-list no. 7).

R. V. Lansdown, 10 Havergal Close, Caswell, Swansea, West Glamorgan SA3 4RL, U.K.

## Notes on the feeding behaviour of the Milky Stork *Mycteria cinerea*

C. SWENNEN and E. C. L. MARTEIJN

As part of the Interwader East Asia/Pacific Shorebird Study Programme in 1984, we studied the foraging behaviour and prey selection of birds living on intertidal flats around the Malay Peninsula. The opportunity arose to observe a Milky Stork *Mycteria cinerea* for one hour at close range with the help of a 40×60 telescope from a hide. Little has been published on the behaviour of this large bird, which at present is scarce and may be in danger of extinction in Malaysia, and indeed is currently regarded as globally threatened (King 1978–1979). The following observations may, therefore, be of interest.

Our bird was discovered on an intertidal mudflat near Sungai Burung, Perak State, peninsular Malaysia, about one hour after low tide on 9 October 1984. According to local fishermen, Milky Storks were regularly to be seen foraging on the flats in that area, which is only 20 km north of the Pulau Kelumpang Forest Reserve, the main roost site for Milky Storks where we had counted 101 birds a few days earlier (see Plate 1; also Plate 2). The white head feathers, yellow-orange bill and pink legs indicated that our bird was an adult. It was foraging at a distance of about 25–100 m in front of the mangrove. It avoided coming nearer to the vegetation and spent its time walking through the large pools on the flat or visiting the water's edge.

The flat consisted of very soft mud and was impassable for man (one sank in waist-deep). When walking, the very long tarsi of the stork only sank in about 6 cm (a quarter of their length), but when standing still to probe or preen, the tarsi sank in about 15–20 cm (about three-quarters of the length of the tarsus). Probably the thick, long toes of the species reduce pressure by increasing the surface area of the feet and hence help it cope with soft substrates.